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Current Trends

Premarital Sexual Experience Among Adolescent Women — United States, 1970–1988

The initiation of sexual intercourse early in life is associated with an increased number of sex partners and a greater risk for sexually transmitted diseases (STDs). This report describes trends in age at first premarital sexual intercourse for adolescent women (15–19 years of age) in the United States during 1970–1988 and indicates an accelerated increase in the proportion having had premarital sex from 1986 to 1988.

Data for this analysis were obtained from interviews with 8450 women* 15–44 years of age who participated in the National Survey of Family Growth (NSFG) conducted by CDC's National Center for Health Statistics (NCHS) in 1988. The women were part of a subsample from a nationally representative sample of households interviewed in the National Health Interview Survey of 1986 (NCHS, unpublished data). The NSFG provided specific information on age and marital status of participants at first sexual intercourse, as well as detailed information on other factors, such as childbearing experiences, use of family-planning services, and knowledge of and experience with STDs.

Proportions were calculated for adolescent women in each year of age from 15 through 19 who reported having had premarital sexual intercourse by March 1 in 1970, 1975, 1980, 1985, and 1988.† For all ages combined for each of these periods, the proportion of adolescent women who reported having had premarital sexual intercourse increased steadily (from 28.6% in 1970 to 51.5% in 1988 [Table 1]). For each 5-year period from 1970 to 1985, the amount of increase declined (i.e., during 1970–1975, 7.8 percentage points; during 1976–1980, 5.6; and during 1981–1985, 2.1). However, from 1985 through 1988, the proportion increased 7.4 points, or approximately one third of the increase in premarital sexual experience among adolescent women for the entire period 1970–1988. This trend persisted even after adjustment for the influence of changing age composition by comparing age-adjusted proportions.

*Sufficient data were available to provide stable estimates only for blacks and whites.

†Because some women in each age group will have premarital sexual intercourse for the first time after March 1 but before reaching their next birthday, the proportions do not represent true age-specific rates. However, time comparisons are valid because the proportions are similarly computed for each comparison year.

Premarital Sex — Continued

For each year of age during 1970–1988, the proportion of adolescent women who reported having had premarital sexual intercourse increased at least 55% (Table 1). The largest relative increase occurred among those 15 years of age (from 4.6% in 1970 to 25.6% in 1988). The cumulative absolute effect of these changes was greatest among women 18 and 19 years of age.

Although the proportion of black adolescents who reported having had premarital sexual intercourse was consistently higher than the proportion of white adolescents who reported having had premarital intercourse, the difference narrowed substantially over time because of a greater relative increase among white adolescents (24 percentage points among whites compared with 13 percentage points among blacks) (Figure 1). For white adolescents, this represents an increase in the number of sexually experienced females from 2.2 million in 1970 to 3.7 million in 1988, and for black adolescents, from 0.6 million to 0.8 million.

In 1988, adolescents who had had sexual intercourse earlier in life reported greater numbers of sex partners. Among 15- to 24-year-olds who initiated sexual intercourse before age 18, 75% reported having had two or more partners, and 45% reported having had four or more partners; among those who became sexually active after age 19, 20% reported having had more than one partner, and 1%, four or more partners. Among women aged 15–24 years who had been sexually active for the same length of time (<24 months), 45% of 15- to 17-year-olds reported having had two or more partners, compared with 40% of 18- to 19-year-olds and 26% of those ≥20 years of age.

Reported by: Family Growth Survey Br, Div of Vital Statistics, National Center for Health Statistics; Div of STD/HIV Prevention, Center for Prevention Svcs, CDC.

TABLE 1. Percentage of women aged 15–19 years who reported having had premarital sexual intercourse, by race and age — United States, 1970–1988*

Race/Age (yrs)	Year				
	1970	1975	1980	1985	1988
All races					
15	4.6	9.8	16.7	20.0	25.6
16	20.3	18.9	26.8	30.4	31.8
17	32.3	36.6	35.5	41.7	51.0
18	39.4	49.1	56.2	53.2	69.5
19	48.2	63.9	66.9	70.7	75.3
Overall	28.6	36.4	42.0	44.1	51.5
White					
15–17	17.2	21.6	26.7	30.3	34.4
18–19	41.4	54.9	60.5	61.0	72.6
Overall	26.7	35.4	41.4	43.1	50.6
Black					
15–17	32.8	32.0	41.4	36.6	48.4
18–19	66.8	79.0	78.3	82.5	75.6
Overall	46.0	50.8	58.1	55.4	58.8

*Tables of preliminary estimates of standard errors applicable to these data may be found in "Contraceptive Use in the United States, 1973–88," *Advance Data from Vital and Health Statistics of the National Center for Health Statistics* (NCHS), no. 182, March 20, 1990. Estimated standard errors for particular statistics may be obtained from CDC's Family Growth Survey Branch, Division of Vital Statistics, NCHS.

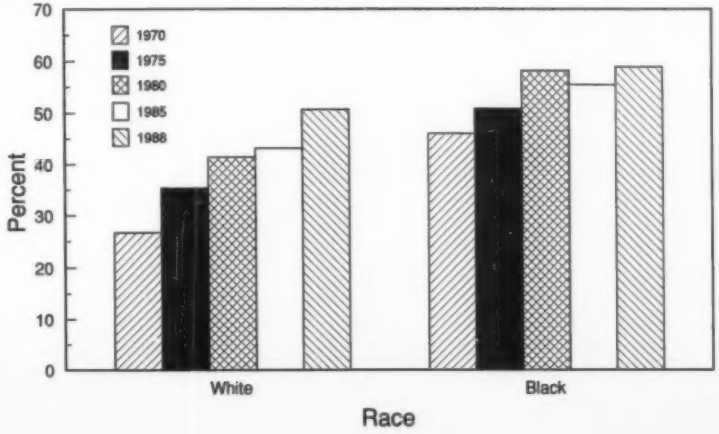
Premarital Sex – Continued

Editorial Note: The NSFG data show that the proportion of adolescent women who reported having had premarital sexual intercourse increased through the 1970s and 1980s, and first sexual experiences occurred at younger ages. Among the 9 million adolescent women in 1988, almost 4.9 million (52%) may have had premarital sexual intercourse.

Information on the premarital sexual experience of adolescent women in the United States was first provided in a series of National Surveys of Young Women (NSYW) conducted in 1971, 1976, and 1979 (*1*). Based on these studies, the proportion of adolescent women in metropolitan settings experiencing premarital sexual intercourse increased from 30% in 1971 to 50% by 1979. This trend was confirmed by the 1982 NSFG, although the increase was less pronounced (*1*). The NSFG estimates for 1976 and 1979 were lower than those from the NSYW studies, but the differences were not statistically significant.

Increased sexual activity among adolescents has several health consequences. For several reasons, adolescents are at higher risk for sexually transmitted infection than are persons in other age groups (*2*). Compared with older age groups, adolescents have higher rates of gonorrheal and chlamydial infections (*3*) (*Chlamydia trachomatis* causes more lower genital tract infections among teenagers than does gonorrhea [*4*]). In addition, by their late teens, about 4% of whites and 17% of blacks have been infected with herpes virus type 2 (*5*). The consequences of these infections are most severe later in life. If untreated, gonorrheal and chlamydial infections of the cervix may progress to pelvic inflammatory disease (PID); acute PID increases risk for recurrent PID, infertility, and ectopic pregnancy. Each year, >1 million U.S. women experience an episode of PID, with 16%–20% of cases occurring among teenagers (*3,5,6*). Age-specific rates of PID are highest for adolescent females (based on appropriate adjustments for sexual activity) (*7*). In a prospective evaluation of the risk for cervical cancer after cytologic evidence of human papillomavirus (HPV) infection, women <25 years of age had increased risk of progression (*8*).

FIGURE 1. Percentage of women 15–19 years of age who reported having had premarital sexual intercourse, by race and year – United States, 1970–1988



Premarital Sex — Continued

The association between early age of sexual intercourse and greater numbers of both recent and lifetime sex partners represents a behavioral link to higher levels of STDs. Females and males who have multiple sex partners over a specified period (e.g., several months) are at increased risk for gonorrhea, syphilis, chlamydia, and chancroid (*9*). Increased numbers of sex partners over a lifetime is associated with a greater cumulative risk for acquiring viral infections such as hepatitis B, genital herpes, HPV, and human immunodeficiency virus (*9*). Efforts to prevent the adverse health outcomes of sexual activity in adolescents should include 1) innovations for early detection and treatment of STDs among teenagers, 2) specialized training for clinicians providing health services for adolescents, 3) school education coupled with accessible clinical services, and 4) behavioral interventions to prevent exposure to and acquisition of sexually transmitted infections.

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Epidemiologic Notes and Reports

False-Positive Results with the Use of Chlamydia Tests in the Evaluation of Suspected Sexual Abuse — Ohio, 1990

On June 21, 1990, a commercial laboratory reported to a private residential-care facility for profoundly retarded persons in Ohio that rectal cultures from 10 residents tested positive for *Chlamydia trachomatis*. This report summarizes the epidemiologic and laboratory investigation by public health officials in Ohio and at CDC, which concluded that the *C. trachomatis* results were false-positive.

On June 6, a female resident of the facility (index resident) who had undergone a hysterectomy several years earlier was evaluated in a hospital emergency room for vaginal bleeding. Because sexual abuse was suspected, vaginal specimens were obtained for culture of *Neisseria gonorrhoeae* and nonculture (i.e., enzyme immunoassay [EIA]) detection of *C. trachomatis* and sent to the local health department. On June 12, the facility was notified that the chlamydia test was positive, and a 10-day course of doxycycline was initiated.

Chlamydia Tests — Continued

On June 18, the facility's medical staff collected multiple specimens for chlamydia and gonorrhea testing with swabs from 25 of the other 26 residents (one recently admitted resident was not tested) of the same unit as the index resident and sent the specimens to a commercial laboratory for analysis. Specimens included rectal swabs from all residents for culture of *C. trachomatis* and *N. gonorrhoeae*, urethral swabs from males and cervical swabs from females for nucleic acid probe assays to detect *C. trachomatis* and *N. gonorrhoeae*, and urethral swabs from males for chlamydia culture. On June 21, the laboratory reported that rectal cultures were positive for chlamydia in 10 residents (six female and four male; age range: 10–25 years); all other specimens were negative. On June 23, pharyngeal swabs for chlamydia culture were obtained from the 10 residents with positive rectal cultures, and doxycycline therapy was initiated for these 10 residents. On June 25, four of the 10 pharyngeal cultures were reported by the commercial laboratory as positive for *C. trachomatis*.

From June 25 through June 28, rectal, pharyngeal, urethral (males), and cervical (females) swabs for chlamydia culture and rectal swabs for gonorrhea culture were obtained from the 75 residents of the remaining three units of the facility and from the 15 residents of the first unit who initially tested negative. All specimens were sent to the commercial laboratory that had tested the specimens obtained on June 18 and June 23; chlamydia cultures were positive in three residents (in two patients, rectal only, and one patient, rectal and pharyngeal). On June 29, all male staff of the facility and female staff of the index resident's unit were asked to volunteer to be cultured for *C. trachomatis*; rectal, pharyngeal, and urethral swabs were obtained from males, and rectal and pharyngeal swabs from females. All specimens from staff members for chlamydia culture were sent to the local health department; none were positive.

On June 22 and June 25, the commercial laboratory reported that it had used immunofluorescence (IF) staining to identify chlamydial inclusions in cell culture; this report implied the true presence of chlamydia in the rectal specimens obtained June 18. On July 2, however, the laboratory indicated that 9 months previously it had changed from the IF method to a new EIA confirmation method for detecting chlamydial antigen in cell culture and that only the EIA method had been used to identify the 10 rectal and four pharyngeal specimens as positive, as well as to identify as positive the specimens from the three residents of the facility obtained during the week of June 25.

On July 6, to compare the EIA culture confirmation and standard IF culture confirmation methods, duplicate rectal and pharyngeal specimens were obtained from the three residents identified as infected during the week of June 25 and from three residents who had tested negative; these specimens were tested by both the commercial laboratory (using both IF and EIA culture confirmation) and the chlamydia laboratory of CDC's Division of Sexually Transmitted Diseases Laboratory Research, Center for Infectious Diseases (IF culture confirmation only). None of the specimens from these six residents were positive by IF culture confirmation at either laboratory. However, five rectal and two pharyngeal specimens were positive by EIA culture confirmation at the commercial laboratory.

The CDC chlamydia laboratory also performed standard IF culture confirmation on residual transport media from the 10 rectal and four pharyngeal specimens initially reported as positive by EIA culture confirmation. No chlamydia were detected in any of these specimens. However, because these 14 transport media had not been stored optimally before transport to CDC, the viability of any chlamydial organisms present

Chlamydia Tests — Continued

would be reduced. Therefore, CDC also analyzed these specimens (and those obtained from the six residents on July 6) by polymerase chain reaction (PCR) using *C. trachomatis*-specific primers to amplify a portion of the 16s RNA gene; PCR results were also negative. Finally, CDC tested serum specimens from the 16 residents who had positive chlamydia cultures by EIA confirmation and the index resident for antibodies to *C. trachomatis* and *C. pneumoniae* (formerly *C. psittaci* TWAR) using the microimmunofluorescence test and immunoblotting; no IgG or IgM antibodies to *C. trachomatis* were detected. IgG antibody to *C. pneumoniae*, consistent with a past infection, was detected in one resident.

Based on the failure to detect *C. trachomatis* (or *C. pneumoniae*) in any specimens by conventional culture techniques, negative PCR results, and the absence of serologic evidence of infection, the investigators concluded that the initial reports of positive chlamydia cultures represented false-positive results.

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Editorial Note: Both culture and nonculture methods for the detection of *C. trachomatis* are widely used in the United States. When performed by experienced technologists, cell culture isolation of *C. trachomatis* is the most sensitive and specific test. The three types of nonculture methods commercially available for detecting *C. trachomatis* directly in clinical specimens are EIA, direct immunofluorescence staining of smears (DIF), and nucleic acid probe tests.

In this report, the index resident was tested for chlamydia because of suspicion of sexual abuse, and a nonculture (EIA) chlamydia test performed on a vaginal specimen (a site for which this test is not approved) was positive. However, because the physical findings were not consistent with sexual abuse and serologic evidence of infection was not present, the nonculture results appear to have been false-positive. Based on the evaluation of this resident and subsequent investigation, three important issues concerning the use of laboratory tests to identify *C. trachomatis* should be emphasized. First, chlamydia tests should be used only on specimens for which they are approved. Each antigen detection and nucleic acid probe test for *C. trachomatis* is approved for use only on specimens from certain anatomic sites. When used on specimens from sites for which they are not approved, the likelihood of false-positive results is higher. False-positive results have been reported with the use of EIA on vaginal specimens from children (*1–3*) and rectal specimens from adults and children (*4–6*) and with DIF staining of rectal smears from adults and children (*1,5*). EIA and DIF false-positives may result from cross-reactivity with other bacteria commonly present in the anogenital area, including strains of *Acinetobacter calcoaceticus, Escherichia coli, Gardnerella vaginalis*, group A and group B streptococci, *N. gonorrhoeae, Proteus vulgaris*, and *Staphylococcus aureus* (*2–4,7–9*).

Second, only standard chlamydia cultures should be used in the evaluation of suspected sexual abuse (*10*) or other situations in which the possibility of a false-positive result is unacceptable. The two components necessary to culture *C. trachomatis* are a cell-culture system to amplify the number of organisms from a clinical specimen and an inclusion detection method (*11*). IF staining is the most sensitive detection method available. False-positive results should not occur with IF staining since the chlamydial inclusions have a characteristic morphology and unique staining pattern

Chlamydia Tests — Continued

(*12*). Nonculture tests for chlamydia are not recommended and should not be used in the evaluation of suspected sexual abuse because of the possibility of false-positive results.

The method used by the commercial laboratory involved in this report uses the standard cell culture system but with EIA detection of chlamydial antigens rather than an inclusion staining method. EIA involves an automated optical density endpoint reading that is proportional to the amount of antigen present. EIA detection has the potential to generate false-positive results because EIA detects solubilized chlamydial antigens that would be derived from the inoculated cell culture, as well as cross-reacting antigens from other organisms present in clinical specimens. Those organisms may be present more commonly in rectal and pharyngeal specimens than in cervical and urethral specimens and may be amplified in the cell culture system if they are resistant to the antimicrobials usually added to the transport medium and cell culture to suppress microbial contamination.

Finally, the term chlamydia "culture" should imply the use of visual identification of characteristic chlamydial intracellular inclusions in cell culture, because this method is specific. Any method that detects solubilized chlamydial macromolecules (e.g., proteins, lipopolysaccharide, DNA, and RNA) after inoculation and incubation of a specimen in cell culture is more likely to yield false-positive results than visual identification of inclusions and therefore may be less specific. Thus, laboratories that claim to be performing chlamydia "culture" should use only standard methods to grow and detect chlamydia. The decision to use EIA (or other methods that do not require visual identification of characteristic inclusions by a trained technician) to identify the presence of chlamydia in cell culture requires full understanding of the advantages and limitations of these methods.

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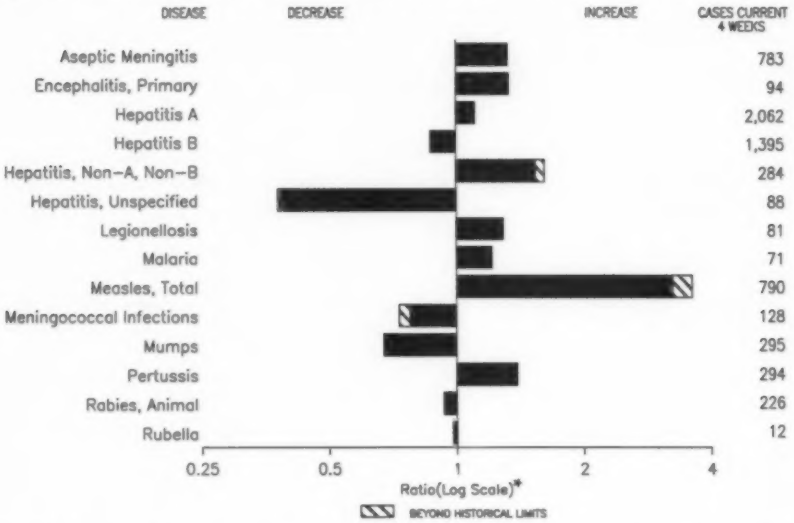
FIGURE I. Notifiable disease reports, comparison of 4-week totals ending December 22, 1990, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from comparable, previous, and subsequent 4-week periods for past 5 years).

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending December 22, 1990 (51st Week)

	Cum. 1990		Cum. 1990
AIDS	40,916	Plague	2
Anthrax	-	Poliomyelitis, Paralytic*	-
Botulism: Foodborne	21	Psittacosis	108
Infant	57	Rabies, human	1
Other	6	Syphilis: civilian	47,440
Brucellosis	76	military	230
Cholera	6	Syphilis, congenital, age <1 year	685
Congenital rubella syndrome	4	Tetanus	58
Diphtheria	4	Toxic shock syndrome	283
Encephalitis, post-infectious	89	Trichinosis	30
Gonorrhea: civilian	646,605	Tuberculosis	23,057
military	8,301	Tularemia	135
Leprosy	184	Typhoid fever	492
Leptospirosis	58	Typhus fever, tickborne (RMSF)	649
Measles: imported	1,100		
indigenous	25,198		

*Six cases of suspected poliomyelitis have been reported in 1990; five of 13 suspected cases in 1989 were confirmed and all were vaccine-associated.

TABLE II. Cases of specified notifiable diseases, United States, weeks ending December 22, 1990, and December 23, 1989 (51st Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	40,916	11,064	1,141	89	646,605	690,843	28,500	19,651	2,695	1,608	1,259	184
NEW ENGLAND	1,494	407	28	-	17,733	20,130	595	1,026	99	69	79	12
Maine	56	23	5	-	199	255	11	26	5	1	6	-
N.H.	66	42	-	-	288	188	8	40	8	3	4	-
Vt.	19	40	2	-	50	68	6	49	6	1	6	-
Mass.	845	131	12	-	7,464	7,915	390	635	70	60	52	10
R.I.	82	125	1	-	1,235	1,403	54	53	-	4	11	1
Conn.	426	46	8	-	8,497	10,301	126	223	10	-	-	1
MID. ATLANTIC	12,008	1,041	49	8	88,062	99,131	3,673	2,429	222	92	380	20
Upstate N.Y.	1,518	551	39	1	14,234	18,063	1,209	692	82	26	145	1
N.Y. City	6,904	132	3	3	32,561	37,449	487	553	25	43	83	14
N.J.	2,384	-	1	-	14,287	14,293	428	570	42	-	49	4
Pa.	1,202	358	6	4	27,000	29,326	1,549	614	73	23	103	1
E.N. CENTRAL	2,852	3,367	293	15	122,673	128,761	2,509	2,279	480	94	310	2
Ohio	620	695	51	4	36,074	34,087	277	383	92	15	95	-
Ind.	262	347	14	9	10,909	9,850	243	396	22	15	47	-
Ill.	1,182	797	93	2	38,315	41,339	1,218	457	50	18	27	1
Mich.	578	1,112	79	-	29,716	33,072	374	637	47	46	98	1
Wis.	210	416	16	-	7,659	10,413	397	406	269	-	43	-
W.N. CENTRAL	1,021	597	117	2	33,175	32,888	1,842	890	156	31	73	1
Minn.	176	121	73	1	4,129	3,779	268	112	27	-	9	-
Iowa	55	117	7	-	2,230	2,757	276	54	13	4	4	-
Mo.	585	226	7	1	20,013	19,978	469	573	87	19	36	-
N. Dak.	2	25	3	-	100	150	26	6	2	2	1	-
S. Dak.	9	10	9	-	302	276	457	8	4	-	2	-
Nebr.	57	42	7	-	1,794	1,622	107	33	4	-	13	1
Kans.	137	56	11	-	4,607	4,326	239	104	19	6	8	-
S. ATLANTIC	8,804	1,959	347	29	185,658	185,215	3,037	3,941	362	235	185	6
Del.	94	49	5	-	3,181	3,194	105	99	9	2	11	-
Md.	1,028	264	26	1	23,280	21,605	959	545	69	14	61	3
D.C.	716	9	-	-	13,238	10,255	15	39	4	-	2	-
Va.	728	369	55	1	17,371	15,995	293	261	44	160	13	-
W. Va.	60	57	62	-	1,337	1,482	24	85	4	10	4	-
N.C.	550	247	41	-	29,998	28,621	646	1,068	147	-	35	1
S.C.	344	27	1	-	14,091	16,493	41	617	15	9	25	-
Ga.	1,234	313	5	1	39,804	36,908	365	496	14	9	21	-
Fla.	4,050	624	152	26	43,358	50,662	589	731	56	31	13	2
E.S. CENTRAL	1,033	715	65	2	55,733	56,292	408	1,500	217	8	58	1
Ky.	178	195	26	-	5,653	5,445	90	466	41	6	22	-
Tenn.	333	158	27	2	17,546	18,952	198	804	143	-	21	1
Ala.	241	244	12	-	18,461	18,208	110	172	25	-	14	-
Miss.	281	118	-	-	14,073	13,687	10	58	8	2	1	-
W.S. CENTRAL	4,376	878	83	9	69,076	71,541	3,596	2,155	145	300	51	38
Ark.	195	35	7	-	8,836	8,048	542	86	13	26	9	-
La.	656	93	11	1	12,176	15,331	212	332	5	7	15	1
Okla.	204	81	3	6	5,942	6,295	584	169	29	26	17	-
Tex.	3,321	667	62	2	42,123	41,867	2,258	1,568	98	241	10	37
MOUNTAIN	1,072	399	26	2	13,091	14,277	4,458	1,425	218	126	54	3
Mont.	16	7	-	-	218	192	166	73	7	4	6	-
Idaho	28	10	-	-	141	168	92	80	8	-	3	-
Wyo.	3	10	1	-	148	109	78	17	5	1	2	-
Colo.	330	102	5	-	3,524	3,233	332	191	50	45	9	-
N. Mex.	110	20	1	-	1,229	1,277	919	189	17	10	4	-
Ariz.	295	172	10	-	5,039	5,714	1,954	476	72	49	12	2
Utah	98	28	5	-	373	437	600	102	28	7	6	-
Nev.	192	50	4	2	2,419	3,147	317	297	31	10	12	1
PACIFIC	8,256	1,703	133	22	61,384	82,608	8,382	4,006	796	653	69	101
Wash.	639	-	7	2	4,981	6,596	1,322	593	136	34	16	9
Oreg.	335	-	-	-	2,472	3,051	797	405	57	12	-	-
Calif.	7,101	1,495	118	19	52,422	71,398	5,989	2,877	586	595	51	75
Alaska	24	110	7	-	1,033	1,048	198	55	7	5	-	-
Hawaii	157	98	1	1	476	515	76	76	10	7	2	17
Guam	2	3	-	-	218	160	12	4	-	11	-	1
P.R.	1,729	86	8	1	715	1,073	160	611	19	28	-	6
V.I.	11	-	-	-	406	690	1	12	-	-	-	-
Amer. Samoa	-	1	-	31	73	55	37	-	-	-	-	10
C.N.M.I.	-	-	10	-	189	90	12	10	-	15	-	6

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 22, 1990, and December 23, 1989 (51st Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	1990	Cum. 1990	Cum. 1989
UNITED STATES	1,161	76	25,196	2	1,100	16,944	2,286	97	4,970	109	4,138	3,818	1	1,093	379
NEW ENGLAND	97	-	269	-	29	398	181	-	49	37	454	393	-	8	6
Maine	4	-	28	-	2	1	15	-	-	1	23	25	-	1	-
N.H.	4	-	-	-	9	16	14	-	11	2	69	16	-	1	4
Vt.	7	-	-	-	1	3	13	-	2	-	8	10	-	-	1
Mass.	50	-	24	-	8	108	81	-	13	34	317	299	-	2	1
R.I.	8	-	27	-	3	41	14	-	11	-	10	21	-	1	-
Conn.	24	-	190	-	5	229	44	-	12	-	27	22	-	3	-
MID. ATLANTIC	235	29	1,600	15	158	1,020	350	10	358	6	553	326	-	11	37
Upstate N.Y.	48	-	206	1	113	157	134	7	144	3	324	148	-	10	14
N.Y. City	80	-	613	-	21	125	46	-	-	-	-	17	-	-	16
N.J.	78	-	330	-	15	456	68	-	96	-	36	37	-	-	7
Pa.	29	29	445	-	9	282	102	3	119	3	193	124	-	1	-
E.N. CENTRAL	73	-	3,387	-	143	6,623	300	5	529	8	972	665	-	163	30
Ohio	9	-	551	-	3	2,239	93	-	91	7	264	147	-	131	3
Ind.	3	U	417	U	1	112	29	U	21	U	149	60	U	-	-
Ill.	34	-	1,328	-	10	3,132	83	-	186	-	332	196	-	20	23
Mich.	18	-	348	-	125	344	69	5	175	1	87	46	-	9	1
Wis.	9	-	743	-	4	796	26	-	56	-	140	216	-	3	3
W.N. CENTRAL	24	-	904	-	17	951	79	35	199	4	225	244	-	50	7
Minn.	8	-	424	-	6	26	19	-	17	1	55	67	-	42	-
Iowa	2	-	25	-	1	13	1	-	23	1	19	15	-	4	1
Mo.	12	-	101	-	1	659	34	-	59	2	112	135	-	2	4
N. Dak.	-	-	-	-	-	-	1	-	-	-	3	5	-	1	1
S. Dak.	-	-	15	-	8	-	3	-	-	-	1	4	-	-	-
Nebr.	-	-	105	-	1	113	5	-	9	-	10	10	-	1	-
Kans.	2	-	234	-	-	140	16	35	91	-	25	8	-	-	1
S. ATLANTIC	223	11	951	-	375	758	431	25	1,981	1	315	375	-	21	23
Del.	6	-	8	-	3	40	4	-	6	-	9	1	-	-	-
Md.	59	-	195	-	18	105	48	10	1,115	-	62	80	-	2	2
D.C.	10	-	16	-	7	42	11	-	40	-	15	4	-	1	-
Va.	53	-	84	-	2	22	54	-	106	-	25	37	-	1	-
W. Va.	2	-	6	-	-	53	20	-	44	-	31	34	-	-	-
N.C.	22	1	25	-	15	190	78	12	327	1	78	79	-	1	1
S.C.	3	-	4	-	-	15	29	1	67	-	5	-	-	-	-
Ga.	16	-	99	-	259	18	69	-	96	-	41	54	-	1	-
Fla.	52	10	514	-	71	273	118	2	180	-	49	86	-	15	20
E.S. CENTRAL	23	-	194	-	4	255	140	-	107	-	162	211	-	4	5
Ky.	2	-	41	-	1	44	40	-	-	-	-	1	-	1	-
Tenn.	11	U	104	U	-	147	56	U	61	U	85	120	U	3	4
Ala.	9	-	23	-	2	60	38	-	19	-	69	79	-	-	1
Miss.	1	-	26	-	1	4	6	-	27	-	8	11	-	-	-
W.S. CENTRAL	76	-	4,233	-	96	3,321	156	13	741	5	204	378	-	91	50
Ark.	4	-	18	-	31	22	18	-	140	-	22	31	-	3	-
La.	7	-	10	-	-	119	36	3	124	-	34	31	-	-	5
Okla.	10	-	174	-	-	110	18	2	108	5	68	66	-	1	1
Tex.	55	-	4,031	-	65	3,070	84	8	369	-	80	250	-	87	44
MOUNTAIN	29	2	878	-	100	420	77	3	349	6	331	686	-	112	37
Mont.	1	-	-	-	1	13	11	-	1	-	36	43	-	15	1
Idaho	5	-	17	-	10	7	6	-	144	-	57	76	-	49	32
Wyo.	1	-	-	-	15	-	1	-	2	-	-	-	-	-	2
Colo.	6	-	91	-	47	101	25	-	26	2	119	107	-	4	1
N. Mex.	4	-	81	-	12	31	12	N	N	-	19	35	-	-	-
Ariz.	11	-	300	-	12	145	7	2	142	-	56	400	-	32	-
Utah	-	-	147	-	-	114	7	-	14	4	40	24	-	4	-
Nev.	1	2	242	-	3	9	8	1	20	-	4	1	-	8	1
PACIFIC	381	34	12,782	1	179	3,198	572	6	657	42	922	540	1	633	184
Wash.	32	-	257	-	87	54	75	-	62	3	220	193	-	1	-
Oreg.	20	-	149	-	44	82	70	N	N	1	113	18	-	75	4
Calif.	323	34	12,239	11	42	3,032	410	6	563	38	461	302	1	541	158
Alaska	2	-	78	-	2	1	12	-	6	-	15	1	-	-	-
Hawaii	4	-	39	-	4	32	5	-	26	-	113	26	-	16	22
Guam	3	U	-	U	1	4	4	U	5	U	1	1	U	-	-
P.R.	3	-	1,688	-	-	568	13	-	8	-	22	6	-	-	8
V.I.	-	U	21	U	3	4	-	U	14	U	-	-	U	-	-
Amer. Samoa	35	U	600	U	-	-	-	U	41	U	-	-	U	-	-
C.N.M.I.	-	U	65	U	4	-	1	U	10	U	4	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 22, 1990, and December 23, 1989 (51st Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	47,440	43,841	283	23,057	21,309	135	492	649	4,191
NEW ENGLAND	1,620	1,675	25	613	638	4	33	20	6
Maine	7	13	8	18	25	1	-	-	-
N.H.	51	16	1	3	26	-	-	1	3
Vt.	2	1	1	13	9	-	-	-	-
Mass.	668	498	13	346	361	3	31	17	-
R.I.	24	30	1	73	64	-	-	-	-
Conn.	868	1,117	1	160	153	-	2	2	3
MID. ATLANTIC	9,159	9,366	32	5,440	4,398	2	100	30	1,100
Upstate N.Y.	899	945	11	367	364	1	19	15	220
N.Y. City	4,016	4,394	5	3,405	2,493	-	54	2	-
N.J.	1,483	1,438	-	920	862	1	23	8	396
Pa.	2,771	2,579	16	748	679	-	4	5	484
E.N. CENTRAL	3,541	1,901	64	2,196	2,152	6	34	48	174
Ohio	554	182	19	387	357	2	6	36	11
Ind.	107	59	1	222	209	1	2	2	17
Ill.	1,518	828	14	1,081	1,026	3	17	3	31
Mich.	996	660	30	423	434	-	8	7	52
Wis.	366	172	-	83	126	-	1	-	63
W.N. CENTRAL	508	332	35	618	552	45	5	53	629
Minn.	91	61	5	123	101	-	-	-	236
Iowa	74	36	10	69	55	-	1	2	21
Mo.	282	176	9	300	264	33	3	35	29
N. Dak.	1	6	1	19	15	-	-	-	93
S. Dak.	3	1	-	14	31	4	-	2	201
Nebr.	15	24	4	16	22	4	-	1	4
Kans.	42	28	6	77	64	4	1	13	45
S. ATLANTIC	15,063	15,421	18	4,272	4,444	5	80	292	1,130
Del.	189	226	1	36	44	-	-	1	32
Md.	1,177	859	1	351	376	-	33	21	442
D.C.	1,080	835	1	159	156	-	-	2	1
Va.	880	553	3	384	370	2	7	25	199
W. Va.	20	15	-	80	73	-	1	1	37
N.C.	1,712	1,141	4	596	590	2	4	178	8
S.C.	1,049	861	2	463	494	1	2	43	129
Ga.	3,831	3,848	2	716	779	-	4	18	201
Fla.	5,125	7,043	4	1,487	1,562	-	29	3	81
E.S. CENTRAL	4,403	3,022	14	1,647	1,677	8	4	84	175
Ky.	112	56	3	359	380	2	1	11	54
Tenn.	1,844	1,329	8	487	531	6	1	58	27
Ala.	1,328	920	3	483	455	-	2	12	91
Miss.	1,119	717	-	318	311	-	-	3	3
W.S. CENTRAL	8,218	6,230	12	2,764	2,573	41	31	101	451
Ark.	586	387	-	317	297	31	-	22	42
La.	2,560	1,583	1	276	333	-	1	3	31
Okla.	263	124	8	198	214	9	3	70	129
Tex.	4,809	4,136	3	1,973	1,729	1	27	6	249
MOUNTAIN	868	678	29	525	575	20	22	12	214
Mont.	-	2	-	22	16	-	-	4	45
Idaho	7	1	2	13	27	-	-	1	7
Wyo.	2	6	2	5	-	7	-	1	54
Colo.	50	64	7	28	57	6	-	1	23
N. Mex.	46	26	3	106	94	4	-	1	12
Ariz.	616	351	9	250	296	-	19	1	38
Utah	29	16	5	38	44	3	-	3	16
Nev.	118	212	1	63	41	-	3	-	19
PACIFIC	4,060	5,226	54	4,982	4,300	4	183	9	312
Wash.	321	478	4	302	231	2	23	2	-
Oreg.	131	239	3	131	139	-	5	1	1
Calif.	3,580	4,485	46	4,296	3,688	-	145	1	289
Alaska	17	9	-	59	59	2	-	-	22
Hawaii	11	15	1	194	183	-	10	5	-
Guam	2	4	-	40	85	-	-	-	-
P.R.	313	519	-	159	289	-	3	-	41
V.I.	42	10	-	4	4	-	-	-	-
Amer. Samoa	-	-	-	15	7	-	1	-	-
C.N.M.I.	5	14	-	57	31	-	4	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending December 22, 1990 (51st Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	662	459	117	51	15	20	47
Boston, Mass.	182	105	38	19	7	13	16
Bridgeport, Conn.	38	32	4	2	-	-	4
Cambridge, Mass.	21	14	5	2	-	-	1
Fall River, Mass.	30	26	4	-	-	-	-
Hartford, Conn.	78	57	6	9	3	3	4
Lowell, Mass.	28	19	8	1	-	-	4
Lynn, Mass.	18	13	3	2	-	-	1
New Bedford, Mass.	23	20	2	-	1	-	1
New Haven, Conn.	55	37	9	4	2	3	2
Providence, R.I.§	49	36	11	2	-	-	4
Somerville, Mass.	3	3	-	-	-	-	-
Springfield, Mass.	46	32	9	4	1	-	3
Waterbury, Conn.	33	21	6	5	1	-	2
Worcester, Mass.	58	44	12	1	-	1	5
MID. ATLANTIC	3,121	1,983	648	338	61	90	147
Albany, N.Y.	37	26	6	-	2	3	5
Allentown, Pa.	18	14	2	2	-	-	1
Buffalo, N.Y.§	113	82	21	6	-	2	6
Camden, N.J.	43	27	10	3	1	2	-
Elizabeth, N.J.	34	20	9	5	-	-	7
Erie, Pa.†	40	28	8	3	-	1	2
Jersey City, N.J.	70	34	16	7	-	12	1
N.Y. City, N.Y.	1,852	1,162	378	232	30	50	79
Newark, N.J.	55	16	12	19	6	2	4
Paterson, N.J.	28	14	5	6	2	1	2
Philadelphia, Pa.	390	235	98	36	12	9	18
Pittsburgh, Pa.†	88	59	16	7	4	2	1
Reading, Pa.	37	27	8	2	-	-	5
Rochester, N.Y.	109	84	19	4	1	1	6
Schenectady, N.Y.	28	23	5	-	-	-	-
Scranton, Pa.†	27	24	3	-	-	-	1
Syracuse, N.Y.	71	53	13	1	1	3	5
Trenton, N.J.	36	22	9	3	1	1	1
Utica, N.Y.	18	12	5	-	-	1	-
Yonkers, N.Y.	27	21	5	-	1	-	3
E.N. CENTRAL	2,386	1,622	457	180	50	77	113
Akron, Ohio	62	50	8	3	1	-	-
Canton, Ohio	45	34	6	5	-	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	127	91	23	7	4	2	8
Cleveland, Ohio	153	101	32	10	2	8	2
Columbus, Ohio	181	123	29	19	7	3	6
Dayton, Ohio	110	71	27	9	2	1	5
Detroit, Mich.	252	152	51	27	11	11	6
Evansville, Ind.	41	32	4	4	-	1	2
Fort Wayne, Ind.	61	49	8	2	-	2	3
Gary, Ind.	13	5	5	2	1	-	1
Grand Rapids, Mich.	64	44	14	2	2	2	11
Indianapolis, Ind.	233	150	54	11	4	14	11
Madison, Wis.	45	27	8	5	2	3	6
Milwaukee, Wis.	130	101	17	8	2	2	14
Peoria, Ill.	43	31	9	2	-	1	4
Rockford, Ill.	57	47	5	2	1	2	3
South Bend, Ind.	56	44	9	3	-	-	6
Toledo, Ohio	106	75	17	11	1	2	7
Youngstown, Ohio	43	33	6	3	-	1	-
W.N. CENTRAL	843	614	131	57	14	27	49
Des Moines, Iowa	138	105	24	4	3	2	7
Duluth, Minn.	28	24	3	1	-	-	-
Kansas City, Kans.	29	23	3	2	-	1	3
Kansas City, Mo.	125	86	19	13	2	5	9
Lincoln, Nebr.	34	26	8	-	-	-	-
Minneapolis, Minn.	182	137	20	17	4	4	15
Omaha, Nebr.§	89	62	20	4	1	2	4
St. Louis, Mo.	125	86	15	13	3	8	9
St. Paul, Minn.	49	35	9	1	-	4	1
Wichita, Kans.	44	30	10	2	1	1	1

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,203	749	233	141	44	34	69
Atlanta, Ga.	169	100	44	20	4	1	5
Baltimore, Md.	154	103	21	17	9	3	18
Charlotte, N.C.	88	50	16	14	2	6	3
Jacksonville, Fla.	127	83	17	17	4	6	14
Miami, Fla.	105	47	32	17	4	4	3
Norfolk, Va.	71	38	14	8	6	5	1
Richmond, Va.	79	52	17	7	2	1	2
Savannah, Ga.	61	47	8	4	1	1	6
St. Petersburg, Fla.	58	45	9	1	1	2	2
Tampa, Fla.	144	103	26	10	4	1	11
Washington, D.C.	131	72	26	22	7	4	4
Wilmington, Del.	16	9	3	4	-	-	-
E.S. CENTRAL	695	466	138	58	14	19	48
Birmingham, Ala.§	110	69	23	13	2	3	3
Chattanooga, Tenn.	49	32	9	4	2	2	6
Knoxville, Tenn.	59	42	9	7	-	1	7
Louisville, Ky.	62	46	10	2	2	2	3
Memphis, Tenn.	195	121	44	16	6	8	13
Mobile, Ala.	67	58	7	2	-	-	3
Montgomery, Ala.§	47	31	11	4	1	-	2
Nashville, Tenn.	106	67	25	10	1	3	11
W.S. CENTRAL	1,392	845	290	147	53	57	91
Austin, Tex.	59	30	7	7	3	12	2
Baton Rouge, La.	30	20	7	2	-	1	3
Corpus Christi, Tex.	45	34	8	1	-	2	5
Dallas, Tex.	206	120	48	24	8	6	5
El Paso, Tex.	61	43	14	1	-	3	5
Fort Worth, Tex.	99	62	14	13	6	4	1
Houston, Tex.	333	185	70	47	20	11	28
Little Rock, Ark.	76	48	18	7	-	3	4
New Orleans, La.	137	75	31	19	10	2	-
San Antonio, Tex.	207	134	46	16	4	7	28
Shreveport, La.	47	29	13	2	1	2	3
Tulsa, Okla.	92	65	14	8	1	4	7
MOUNTAIN	695	475	132	43	21	24	44
Albuquerque, N. Mex.	69	44	18	3	2	2	2
Colo. Springs, Colo.	39	27	6	3	2	1	3
Denver, Colo.	77	50	13	5	4	5	6
Las Vegas, Nev.	142	88	35	11	4	4	4
Ogden, Utah	29	22	5	-	1	1	2
Phoenix, Ariz.	169	118	26	12	6	7	10
Pueblo, Colo.	29	20	6	2	1	-	4
Salt Lake City, Utah	36	20	10	3	1	2	6
Tucson, Ariz.	105	86	13	4	-	2	7
PACIFIC	1,915	1,272	350	201	43	47	134
Berkeley, Calif.	19	13	5	-	1	-	-
Fresno, Calif.	79	56	12	4	2	5	3
Glendale, Calif.	22	16	4	2	-	-	-
Honolulu, Hawaii	77	48	16	7	3	3	6
Long Beach, Calif.	110	68	22	7	3	10	17
Los Angeles Calif.	395	260	74	46	8	5	20
Oakland, Calif.§	73	51	10	8	3	1	5
Pasadena, Calif.	33	20	3	6	1	3	3
Portland, Oreg.	111	81	16	11	1	2	1
Sacramento, Calif.	178	128	29	14	3	4	25
San Diego, Calif.	199	127	40	22	6	4	17
San Francisco, Calif.	195	104	44	40	5	2	9
San Jose, Calif.	160	112	32	14	1	1	16
Seattle, Wash.	119	77	23	14	4	1	3
Spokane, Wash.	63	51	7	4	-	1	3
Tacoma, Wash.	82	60	13	2	2	5	6
TOTAL	12,912††	8,485	2,496	1,216	315	395	742

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

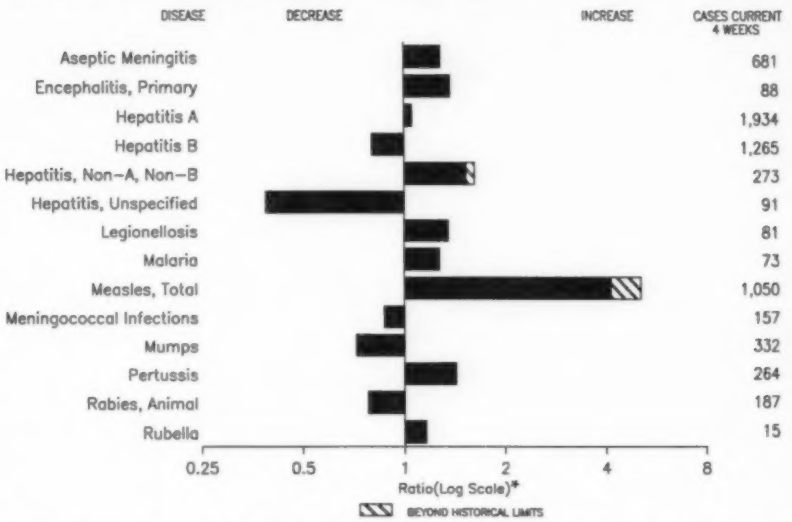
**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past available 4 weeks.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending December 29, 1990, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from comparable, previous, and subsequent 4-week periods for past 5 years).

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending December 29, 1990 (52nd Week)

	Cum. 1990		Cum. 1990
AIDS	41,129	Plague	2
Anthrax	-	Poliomyelitis, Paralytic*	-
Botulism: Foodborne	21	Psittacosis	109
Infant	58	Rabies, human	1
Other	7	Syphilis: civilian	48,128
Brucellosis	77	military	235
Cholera	9	Syphilis, congenital, age < 1 year	685
Congenital rubella syndrome	9	Tetanus	60
Diphtheria	4	Toxic shock syndrome	293
Encephalitis, post-infectious	91	Trichinosis	30
Gonorrhea: civilian	664,159	Tuberculosis	23,720
military	8,579	Tularemia	137
Leprosy	203	Typhoid fever	503
Leptospirosis	60	Typhus fever, tickborne (RMSF)	654
Measles: imported	1,099		
indigenous	25,421		

*Six cases of suspected poliomyelitis have been reported in 1990; five of 13 suspected cases in 1989 were confirmed and all were vaccine-associated.

TABLE II. Cases of specified notifiable diseases, United States, weeks ending December 29, 1990, and December 30, 1989 (52nd Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	41,129	11,178	1,159	91	664,159	703,463	28,919	19,939	2,773	1,625	1,284	203
NEW ENGLAND	1,492	414	28	-	17,883	20,401	600	1,040	100	66	80	12
Maine	58	23	5	-	200	259	11	27	5	1	6	-
N.H.	66	42	-	-	288	195	8	40	9	3	4	-
Vt.	19	40	2	-	50	70	6	49	6	1	6	-
Mass.	844	133	12	-	7,556	8,059	391	646	70	58	53	10
R.I.	82	130	1	-	1,248	1,414	54	54	-	3	11	1
Conn.	425	46	8	-	8,541	10,394	130	224	10	-	-	1
MID. ATLANTIC	11,972	1,052	50	8	91,788	100,555	3,675	2,440	222	92	394	20
Upstate N.Y.	1,511	559	40	1	14,447	18,271	1,209	688	82	26	148	1
N.Y. City	6,888	132	3	3	32,561	38,251	487	553	25	43	83	14
N.J.	2,376	-	1	-	14,287	14,403	428	570	42	-	49	4
Pa.	1,197	361	6	4	30,493	29,630	1,551	619	73	23	114	1
E.N. CENTRAL	2,909	3,411	300	16	126,679	133,009	2,604	2,343	499	94	312	2
Ohio	660	708	91	4	39,695	34,548	292	387	94	15	95	-
Ind.	282	366	18	10	11,149	9,880	263	423	25	15	48	-
Ill.	1,181	809	96	2	38,395	44,428	1,278	475	55	18	28	1
Mich.	577	1,112	79	-	29,716	33,627	374	637	47	46	98	1
Wis.	209	416	16	-	7,724	10,526	397	421	278	-	43	-
W.N. CENTRAL	1,020	603	118	2	33,451	33,626	1,888	893	158	31	73	1
Minn.	176	122	74	1	4,149	3,807	275	114	29	-	9	-
Iowa	55	122	7	-	2,285	2,757	276	54	13	4	4	-
Mo.	583	226	7	1	20,192	20,625	471	574	87	19	36	-
N. Dak.	2	25	3	-	100	150	27	6	2	2	1	-
S. Dak.	9	10	9	-	308	277	493	8	4	-	2	-
Nebr.	58	42	7	-	1,804	1,684	107	33	4	-	13	1
Kans.	137	56	11	-	4,613	4,326	239	104	19	6	8	-
S. ATLANTIC	8,746	1,977	351	29	189,752	187,725	3,048	3,987	366	241	186	6
Del.	94	49	5	-	3,251	3,411	105	99	9	2	11	-
Md.	1,002	266	26	1	23,280	21,853	960	562	72	14	61	3
D.C.	704	9	-	-	13,517	10,255	15	39	4	-	2	-
Va.	717	369	55	1	17,680	15,995	293	261	44	160	13	-
W. Va.	59	56	62	-	1,347	1,500	24	87	4	10	4	-
N.C.	558	252	42	-	31,982	29,132	651	1,082	148	6	36	1
S.C.	342	28	1	-	14,146	16,493	45	624	15	9	25	-
Ga.	1,222	315	5	1	40,633	37,859	365	496	14	9	21	-
Fla.	4,048	633	155	26	43,916	51,227	590	737	56	31	13	2
E.S. CENTRAL	1,039	717	67	2	57,056	56,906	438	1,559	224	8	58	1
Ky.	190	195	26	-	5,770	5,505	92	469	41	6	22	-
Tenn.	331	158	27	2	18,112	19,261	198	804	143	-	21	1
Ala.	239	245	14	-	18,858	18,208	110	175	26	-	14	-
Miss.	279	119	-	-	14,316	13,932	38	111	14	2	1	-
W.S. CENTRAL	4,417	890	83	9	71,436	72,758	3,633	2,166	145	302	51	38
Ark.	208	39	7	-	8,881	8,086	556	90	13	27	9	-
La.	703	93	11	1	12,843	15,381	214	335	5	7	15	1
Okla.	203	81	3	6	6,035	6,449	591	169	29	26	17	-
Tex.	3,303	677	62	2	43,677	42,842	2,272	1,572	98	242	10	37
MOUNTAIN	1,125	399	26	2	13,484	14,438	4,493	1,447	225	126	60	3
Mont.	17	7	-	-	220	196	167	74	7	4	6	-
Idaho	28	10	-	-	143	172	93	83	8	-	3	-
Wyo.	3	10	1	-	151	169	78	17	5	1	2	-
Colo.	364	102	5	-	3,617	3,301	334	196	56	43	9	-
N. Mex.	109	20	1	-	1,241	1,296	919	189	17	10	4	-
Ariz.	315	172	10	-	5,258	5,776	1,980	482	72	51	15	2
Utah	98	28	5	-	385	441	602	103	28	7	8	-
Nev.	191	50	4	2	2,469	3,147	320	303	32	10	13	1
PACIFIC	8,409	1,715	136	23	62,630	84,045	8,540	4,064	834	665	70	120
Wash.	637	-	8	2	5,022	6,657	1,378	621	144	36	17	9
Oreg.	335	-	-	-	2,503	3,104	803	412	58	13	-	-
Calif.	7,257	1,502	120	20	53,580	72,687	6,065	2,900	615	604	51	76
Alaska	24	110	7	-	1,042	1,072	198	55	7	5	-	-
Hawaii	156	103	1	1	483	525	76	76	10	7	2	35
Guam	2	3	-	-	218	160	12	4	-	11	-	1
P.R.	1,727	86	8	1	715	1,073	160	611	19	28	-	6
V.I.	11	-	-	-	470	697	1	13	-	-	-	-
Amer. Samoa	-	1	-	31	73	56	37	-	-	-	-	10
C.N.M.I.	-	-	10	-	189	94	12	10	-	15	-	6

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 29, 1990, and December 30, 1989 (52nd Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	1990	Cum. 1990	Cum. 1989
UNITED STATES	1,185	276	25,421	1	1,099	17,862	2,349	102	5,075	46	4,188	4,030	8	1093	384
NEW ENGLAND	98	-	269	-	28	398	183	-	49	7	461	421	-	8	6
Maine	4	-	28	-	2	1	16	-	-	1	24	27	-	1	-
N.H.	4	-	-	-	9	16	14	-	11	-	69	30	-	1	4
Vt.	7	-	-	-	1	3	13	-	2	-	8	11	-	-	1
Mass.	50	-	24	-	8	108	81	-	13	6	323	307	-	2	1
R.I.	9	-	27	-	3	41	14	-	11	-	10	21	-	1	-
Conn.	24	-	190	-	5	229	45	-	12	-	27	25	-	3	-
MID. ATLANTIC	245	-	1,600	-	158	1,072	376	2	360	1	554	344	-	11	37
Upstate N.Y.	49	-	206	-	113	199	138	2	146	1	325	166	-	10	14
N.Y. City	80	-	613	-	21	135	46	-	-	-	-	17	-	-	16
N.J.	78	-	336	-	15	456	68	-	95	-	36	37	-	-	7
Pa.	38	-	445	-	9	282	124	-	119	-	193	124	-	1	-
E.N. CENTRAL	74	10	3,392	-	142	7,247	302	-	529	5	977	671	-	163	30
Ohio	9	10	556	-	2	2,720	94	-	91	-	264	147	-	131	3
Ind.	3	-	417	-	1	112	30	-	21	5	154	60	-	-	-
Ill.	35	-	1,328	-	10	3,191	83	-	186	-	332	198	-	20	23
Mich.	18	U	348	U	125	359	69	U	175	U	87	48	U	9	1
Wis.	9	-	743	-	4	865	26	-	56	-	140	218	-	3	3
W.N. CENTRAL	25	-	856	-	16	980	79	5	204	5	232	258	2	44	8
Minn.	8	-	376	-	5	41	19	-	17	4	59	70	2	36	-
Iowa	2	-	25	-	1	13	1	-	23	1	20	15	-	4	1
Mo.	12	-	101	-	1	673	34	-	59	-	112	142	-	2	4
N. Dak.	-	-	-	-	-	-	1	-	-	-	5	5	-	1	1
S. Dak.	-	-	15	-	8	-	3	-	-	-	1	4	-	-	-
Nebr.	-	-	105	-	1	113	5	-	9	-	10	10	-	1	-
Kans.	3	-	234	-	-	140	16	5	96	-	25	12	-	-	2
S. ATLANTIC	224	1	952	-	375	851	434	17	1,998	13	328	389	1	22	24
Del.	6	1	9	-	3	40	4	-	6	-	9	1	-	-	-
Md.	59	-	195	-	18	116	48	3	1,118	-	62	82	-	2	2
D.C.	10	-	16	-	7	42	11	1	41	-	15	4	-	1	-
Va.	53	-	84	-	2	22	54	-	106	-	25	37	-	1	-
W. Va.	2	-	6	-	-	53	20	-	44	-	31	36	-	-	-
N.C.	23	-	25	-	15	190	81	-	327	-	78	79	-	1	1
S.C.	3	-	4	-	-	48	29	8	75	9	14	-	1	1	-
Ga.	16	-	99	-	259	18	69	-	96	-	41	55	-	1	-
Fla.	52	-	514	-	71	322	118	5	185	4	53	95	-	15	21
E.S. CENTRAL	24	-	194	-	4	261	148	1	108	-	162	245	-	4	5
Ky.	2	-	41	-	1	47	42	-	-	-	-	35	-	1	-
Tenn.	11	-	104	-	-	147	56	-	61	-	85	120	-	3	4
Ala.	9	-	23	-	2	60	39	-	19	-	69	79	-	-	1
Miss.	2	-	26	-	1	7	11	1	28	-	8	11	-	-	-
W.S. CENTRAL	77	-	4,233	-	96	3,400	161	64	805	2	206	429	-	91	50
Ark.	4	-	18	-	31	22	19	-	140	1	23	35	-	3	-
La.	8	-	10	-	-	119	37	-	124	-	34	38	-	-	5
Okla.	10	-	174	-	-	110	19	-	108	1	69	66	-	1	1
Tex.	55	-	4,031	-	65	3,149	86	64	433	-	80	290	-	87	44
MOUNTAIN	29	3	881	-	100	420	80	3	352	6	337	693	2	114	37
Mont.	1	-	-	-	1	13	11	-	1	-	36	43	-	15	1
Idaho	5	-	16	-	10	7	6	-	144	1	58	76	-	49	32
Wyo.	1	-	-	-	15	-	1	1	3	1	1	-	1	1	2
Colo.	6	-	91	-	47	101	26	-	26	4	123	112	-	4	1
N. Mex.	4	-	81	-	12	31	12	N	N	-	19	35	-	-	-
Ariz.	11	-	300	-	12	145	9	1	143	-	56	400	-	32	-
Utah	-	-	147	-	-	114	7	-	14	-	40	26	-	4	-
Nev.	1	3	246	-	3	9	8	1	21	-	4	1	1	9	1
PACIFIC	389	262	13,044	1	180	3,233	586	10	670	7	931	580	3	636	187
Wash.	33	-	257	1§	88	56	78	4	66	5	225	197	-	1	-
Oreg.	20	-	169	-	44	82	72	N	N	-	113	18	2	77	4
Calif.	329	262	12,501	-	42	3,065	418	6	570	2	463	336	1	542	160
Alaska	2	-	78	-	2	1	12	-	8	-	17	1	-	-	-
Hawaii	5	-	39	-	4	32	6	-	26	-	113	28	-	16	23
Guam	3	U	-	U	1	4	4	U	5	U	1	1	U	-	-
P.R.	3	U	1,668	U	-	604	13	U	8	U	22	6	U	-	8
V.I.	-	-	21	-	3	4	-	1	15	-	-	-	-	-	-
Amer. Samoa	35	U	600	U	-	-	-	U	41	U	-	-	U	-	-
C.N.M.I.	-	U	65	U	4	-	1	U	10	U	4	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 29, 1990, and December 30, 1989 (52nd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	48,128	44,940	293	23,720	22,422	137	503	654	4,219
NEW ENGLAND	1,629	1,718	27	679	717	4	33	20	6
Maine	7	13	8	18	25	1	-	-	-
N.H.	51	16	1	3	29	-	-	1	3
Vt.	2	1	2	13	9	-	-	-	-
Mass.	668	512	14	407	430	3	31	17	-
R.I.	26	30	1	75	64	-	-	-	-
Conn.	875	1,146	1	163	160	-	2	2	3
MID. ATLANTIC	9,169	9,546	36	5,610	4,548	2	103	30	1,105
Upstate N.Y.	889	957	11	377	376	1	19	15	223
N.Y. City	4,016	4,518	5	3,554	2,563	-	54	2	-
N.J.	1,483	1,466	-	931	922	1	23	8	398
Pa.	2,781	2,605	20	748	687	-	7	5	484
E.N. CENTRAL	3,555	2,054	65	2,218	2,211	6	38	48	174
Ohio	554	182	20	387	381	2	6	36	11
Ind.	114	61	1	230	220	1	2	2	17
Ill.	1,524	944	14	1,091	1,026	3	21	3	31
Mich.	996	695	30	423	458	-	8	7	52
Wis.	367	172	-	87	126	-	1	-	63
W.N. CENTRAL	514	344	35	623	584	46	5	54	633
Minn.	92	64	5	125	103	-	-	-	238
Iowa	75	36	10	71	68	-	1	2	21
Mo.	284	183	9	300	278	34	3	36	29
N. Dak.	1	6	1	19	15	-	-	-	95
S. Dak.	3	1	-	14	31	4	-	2	201
Nebr.	17	26	4	16	22	4	-	1	4
Kans.	42	28	6	78	67	4	1	13	45
S. ATLANTIC	15,194	15,624	18	4,477	4,661	5	80	292	1,141
Del.	190	230	1	36	46	-	-	1	32
Md.	1,177	876	1	388	397	-	33	21	447
D.C.	1,082	835	1	159	156	-	-	2	2
Va.	880	593	3	411	381	2	7	25	202
W. Va.	20	16	-	82	73	-	1	1	37
N.C.	1,729	1,162	4	668	637	2	4	178	8
S.C.	1,061	861	2	464	509	1	2	43	129
Ga.	3,878	3,897	2	753	801	-	4	18	202
Fla.	5,177	7,154	4	1,516	1,661	-	29	3	82
E.S. CENTRAL	4,589	3,119	14	1,648	1,736	8	4	88	177
Ky.	117	60	3	359	380	2	1	11	54
Tenn.	1,938	1,412	8	487	568	6	1	58	27
Ala.	1,390	920	3	484	464	-	2	13	93
Miss.	1,144	727	-	318	324	-	-	6	3
W.S. CENTRAL	8,473	6,494	12	2,776	2,646	41	31	101	452
Ark.	593	387	-	320	313	31	-	22	42
La.	2,626	1,632	1	276	333	-	1	3	31
Okla.	264	134	8	207	230	9	3	70	130
Tex.	4,990	4,341	3	1,973	1,770	1	27	6	249
MOUNTAIN	884	708	30	553	657	21	22	12	214
Mont.	-	2	-	22	31	-	-	4	45
Idaho	9	1	2	12	28	-	-	1	7
Wyo.	2	6	2	5	-	7	-	1	54
Colo.	51	64	7	28	73	6	-	1	23
N. Mex.	51	26	3	124	96	4	-	1	12
Ariz.	616	381	10	261	332	-	19	1	38
Utah	29	16	5	38	56	4	-	3	16
Nev.	126	212	1	63	41	-	3	-	19
PACIFIC	4,121	5,333	56	5,136	4,862	4	187	9	317
Wash.	321	489	4	302	240	2	23	2	-
Oreg.	137	245	3	138	145	-	5	1	1
Calif.	3,634	4,574	48	4,439	4,026	-	149	1	294
Alaska	17	10	-	61	62	2	-	-	22
Hawaii	12	15	1	196	189	-	10	5	-
Guam	2	4	-	40	85	-	-	-	-
P.R.	313	519	-	159	289	-	3	-	41
V.I.	44	10	-	4	4	-	-	-	-
Amer. Samoa	-	-	-	15	7	-	1	-	-
C.N.M.I.	5	14	-	57	31	-	4	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending December 29, 1990 (52nd Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	653	460	113	52	17	11	44
Boston, Mass.	173	112	32	19	8	2	13
Bridgeport, Conn.	45	37	5	-	1	2	3
Cambridge, Mass.	16	13	2	-	-	1	-
Fall River, Mass.	26	21	4	1	-	-	-
Hartford, Conn.	78	56	15	3	2	2	5
Lowell, Mass.	22	13	5	2	2	-	2
Lynn, Mass.	13	11	2	-	-	-	-
New Bedford, Mass.	19	16	2	1	-	-	-
New Haven, Conn.	49	26	7	10	2	2	2
Providence, R.I.	83	56	19	6	-	-	6
Somerville, Mass.	3	2	-	1	-	-	-
Springfield, Mass.	45	34	7	3	1	-	2
Waterbury, Conn.	28	20	4	3	1	-	4
Worcester, Mass.	53	39	9	3	-	2	7
MID. ATLANTIC	2,403	1,616	451	241	45	50	127
Albany, N.Y.	60	43	9	5	1	2	2
Allentown, Pa.	17	15	2	-	-	-	-
Buffalo, N.Y.§	115	84	21	8	-	2	6
Camden, N.J.	54	33	10	7	1	3	-
Elizabeth, N.J.	9	6	1	2	-	-	1
Erie, Pa.†	43	38	4	-	1	-	1
Jersey City, N.J.	43	28	8	5	-	2	3
N.Y. City, N.Y.	1,182	761	235	143	20	23	56
Newark, N.J.	54	27	12	7	3	5	1
Paterson, N.J.	33	21	5	5	1	1	9
Philadelphia, Pa.§	396	258	85	34	9	10	20
Pittsburgh, Pa.†	48	37	8	2	1	-	2
Reading, Pa.	31	27	1	1	2	-	6
Rochester, N.Y.	112	89	13	6	3	1	10
Schenectady, N.Y.	28	19	7	1	1	-	2
Scranton, Pa.†	35	29	2	4	-	-	1
Syracuse, N.Y.	75	54	17	2	1	1	2
Trenton, N.J.	28	17	6	4	1	-	3
Utica, N.Y.	20	14	3	3	-	-	-
Yonkers, N.Y.	20	16	2	2	-	-	2
E.N. CENTRAL	1,925	1,300	398	114	44	69	76
Akron, Ohio	48	31	10	3	1	3	-
Canton, Ohio	43	30	13	-	-	-	-
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	43	30	5	1	3	4	5
Cleveland, Ohio	117	68	37	6	5	1	3
Columbus, Ohio	178	117	38	12	4	7	6
Dayton, Ohio	83	56	22	3	-	2	5
Detroit, Mich.	167	98	34	15	5	15	4
Evansville, Ind.	30	23	6	1	-	-	-
Fort Wayne, Ind.	56	45	6	1	1	3	2
Gary, Ind.	12	8	2	1	1	-	-
Grand Rapids, Mich.	73	53	12	2	2	4	7
Indianapolis, Ind.	143	92	32	7	7	5	6
Madison, Wis.	28	20	5	2	-	1	1
Milwaukee, Wis.	125	98	22	3	1	1	6
Peoria, Ill.§	47	39	6	2	-	-	5
Rockford, Ill.	43	33	7	2	-	1	4
South Bend, Ind.	30	24	4	-	2	-	2
Toledo, Ohio	43	31	6	5	1	-	3
Youngstown, Ohio	52	42	6	3	1	-	1
W.N. CENTRAL	622	453	107	36	13	13	23
Des Moines, Iowa	44	31	9	3	-	1	1
Duluth, Minn.	18	17	1	-	-	-	3
Kansas City, Kans.	20	10	5	1	2	2	-
Kansas City, Mo.	90	69	15	2	3	1	3
Lincoln, Nebr.	31	23	6	2	-	-	-
Minneapolis, Minn.	123	85	20	14	1	3	7
Omaha, Nebr.	67	46	15	4	1	1	3
St. Louis, Mo.	135	104	21	6	3	1	-
St. Paul, Minn.	50	34	7	2	3	4	5
Wichita, Kans.	44	34	8	2	-	-	1
S. ATLANTIC	1,095	696	227	98	29	33	63
Atlanta, Ga.	108	54	22	19	2	11	4
Baltimore, Md.	213	144	46	12	5	5	20
Charlotte, N.C.	60	38	13	7	-	2	2
Jacksonville, Fla.	105	75	21	6	2	1	9
Miami, Fla.	114	67	26	13	4	4	1
Norfolk, Va.	43	26	14	1	-	2	4
Richmond, Va.	63	44	12	7	-	-	2
Savannah, Ga.	57	43	11	1	-	2	2
St. Petersburg, Fla.	86	67	10	5	3	1	8
Tampa, Fla.	100	64	19	8	4	4	5
Washington, D.C.	109	56	27	18	7	1	2
Wilmington, Del.	27	18	6	1	2	-	4
E.S. CENTRAL	641	430	126	47	21	17	47
Birmingham, Ala.	81	51	22	4	-	4	3
Chattanooga, Tenn.	35	26	4	4	1	-	5
Knoxville, Tenn.	78	61	12	3	1	1	10
Louisville, Ky.	58	35	16	3	4	-	3
Memphis, Tenn.	186	121	30	18	9	8	8
Mobile, Ala.	45	34	8	1	-	2	5
Montgomery, Ala.§	50	33	11	5	1	-	2
Nashville, Tenn.	108	69	23	9	5	2	11
W.S. CENTRAL	890	533	209	73	39	36	45
Austin, Tex.	34	21	8	2	1	2	-
Baton Rouge, La.	19	10	5	2	-	2	2
Corpus Christi, Tex.	17	11	4	-	-	2	1
Dallas, Tex.	127	58	40	17	7	5	3
El Paso, Tex.	50	34	11	2	-	3	2
Fort Worth, Tex.	56	36	13	5	1	1	4
Houston, Tex.	228	124	55	27	13	9	14
Little Rock, Ark.	53	34	12	2	1	4	2
New Orleans, La.	49	25	11	4	6	3	-
San Antonio, Tex.	135	90	30	5	6	4	6
Shreveport, La.	71	48	13	6	4	-	9
Tulsa, Okla.	51	42	7	1	-	1	2
MOUNTAIN	599	390	123	46	13	27	38
Albuquerque, N. Mex.	71	50	13	3	2	3	2
Colo. Springs, Colo.	45	32	6	4	2	1	3
Denver, Colo.	101	69	21	5	3	3	8
Las Vegas, Nev.	88	46	26	14	1	1	4
Ogden, Utah	25	19	3	2	-	1	4
Phoenix, Ariz.	115	69	22	9	3	12	4
Pueblo, Colo.	18	15	3	-	-	-	1
Salt Lake City, Utah	37	18	9	4	1	5	2
Tucson, Ariz.	99	72	20	5	1	1	10
PACIFIC	1,693	1,144	288	182	39	36	91
Berkeley, Calif.	20	11	5	3	-	1	1
Fresno, Calif.§	94	66	16	6	3	3	5
Glendale, Calif.	20	17	3	-	-	-	1
Honolulu, Hawaii	86	62	17	4	-	3	7
Long Beach, Calif.	65	38	15	10	-	2	10
Los Angeles Calif.	303	191	55	43	7	4	8
Oakland, Calif.§	68	48	9	7	3	1	4
Pasadena, Calif.	32	23	6	-	1	2	-
Portland, Oreg.	109	78	14	9	4	4	3
Sacramento, Calif.	145	103	19	14	5	4	9
San Diego, Calif.§	178	110	33	25	5	5	17
San Francisco, Calif.	153	98	22	28	2	2	4
San Jose, Calif.	149	100	29	13	4	3	14
Seattle, Wash.§	151	107	27	13	3	1	2
Spokane, Wash.	48	39	8	1	-	-	4
Tacoma, Wash.	72	53	10	6	2	1	2
TOTAL	10,511††	7,022	2,042	889	260	292	554

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

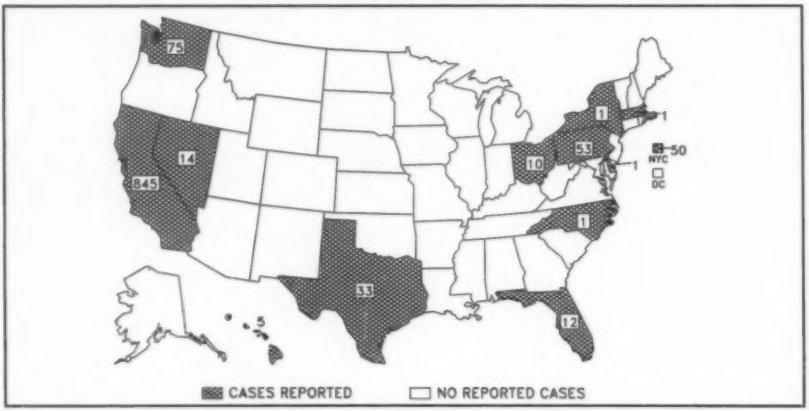
**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Reported cases of measles, by state – United States, weeks 49–52, 1990



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